



**USAID**  
FROM THE AMERICAN PEOPLE

# HOSPITAL FUNDING IN ALBANIA

TECHNICAL REPORT

September 25<sup>th</sup>, 2013

This publication was produced for review by the United States Agency for International Development. It was prepared by Steve Kenny for the Enabling Equitable Health Reforms Project in Albania.

Recommended Citation: Kenny, Steve. September 25<sup>th</sup> 2013. *Hospital Funding in Albania– Technical Report*. Bethesda, MD. Enabling Equitable Health Reforms Project in Albania, Abt Associates Inc.

Contract No.: 182-C-00-10-00104-00

Submitted to: Agim Koçiraj  
EEHR Contracting Officer's Representative  
USAID/Albania

# HOSPITAL FUNDING IN ALBANIA TECHNICAL REPORT

## DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government



# CONTENTS

<b>CONTENTS .....</b>	<b>iii</b>
<b>NOTICE TO READER .....</b>	<b>v</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>vii</b>
<b>I. INTRODUCTION .....</b>	<b>I</b>
1.1 Background.....	1
1.2 Essentials of This Proposal .....	1
1.3 Rationale for This Proposal.....	1
1.4 Preliminary Requirements for Global Budgeting.....	2
<b>2. METHODOLOGY .....</b>	<b>3</b>
2.1 Step 1 - Allocate between Tertiary and Regional Hospital Care .....	3
2.2 Step 2 - Allocate Funding within Tertiary Care Programs .....	4
2.3 Step 3 - Calculate Occupancy Rates and Bed Use.....	5
2.4 Step 4- Compare Funding by Region for Inequities .....	7
2.5 Step 5 - Assess District Hospitals.....	8
2.6 Step 6 - Compare Regional Hospitals.....	10
2.7 Step 7 - Compare Beds and Funding to Population .....	10
2.8 Step 8 - Adjust population Served by Referral Patterns.....	11
2.9 Step 9 - Reallocation within each Region.....	11
2.10 Step 10 - Determination of the Incremental Adjustments.....	12
<b>3. MANAGING THE HOSPITAL FUNDING PROCESS .....</b>	<b>13</b>
3.1 Organization of HII for New Responsibilities .....	13
3.2 Preliminary Consultation with Hospitals.....	13
3.3 On-going Consultation with Hospitals .....	14
3.4 hospital performance indicators.....	15
3.5 Documentation of Policy and Procedures.....	17
<b>4. COSTING OF HOSPITAL SERVICES .....</b>	<b>18</b>
<b>5. MOVING TOWARD IMPLEMENTATION OF CASE MIX</b>	<b>21</b>
<b>6. SCHEDULE FOR CHANGES .....</b>	<b>23</b>
6.1 Year 1 .....	23
6.2 Year 2 .....	23
6.3 Year 3 .....	24
6.4 Year 4 and 5.....	24
<b>7. CONCLUSIONS.....</b>	<b>26</b>
<b>8. APPENDIX .....</b>	<b>27</b>



# NOTICE TO READER

This report has been prepared by the consultant with guidance from the Technical Commission of the Health Insurance Institute (HII) which met as a group numerous times from December 2012 to September 2013. The data collection and analysis has been done by the staff of the Hospital Department of the Health Insurance Institute.

The Technical Commission was formed for the purposes of defining the Package of Services by an Order of the Minister of Health (Order Nr. 587 Dt 21.11.2012). The composition of the Committee was a decision of the Health Reform Implementation Support Group. The General Director, HII approved the group to also assist in the matter of Hospital Funding for purposes of this assignment:

- |                     |  |
|---------------------|--|
| 1. Naun SINANI,     | Medical Advisor to General Director, HII, Chair of Committee |
| 2. Rudina MAZNIKU,  | Head of Hospital Department, HII                             |
| 3. Alfred CARERI,   | Legal Adviser to the Director HII                            |
| 4. Norah ORANLLIU,  | Head of Data Unit at Hospital Department, HII                |
| 5. Rudina DEGJONI,  | Hospital Management Information, Hospital Department, HII    |
| 6. Laura MANO,      | Head, Legal Development Unit, HII                            |
| 7. Silva NOVI,      | Medical Advisor, Hospital Department, Ministry of Health     |
| 8. Vasilika XHAFAJ, | Economist, Hospital Department, Ministry of Health           |

The Committee also benefited by participation of additional HII staff and from staff of the EEHR from time to time.

The Report is intended to be practical and specific to the current circumstances in Albania and is limited by the data available and the past experience in funding hospitals in Albania.

The Consultant is:

*Steve Kenny, BSc., MHSA*

*E-mail: [steve.kenny@camsi.org](mailto:steve.kenny@camsi.org)*

*Canadian Mobile: 1-250-881-3622*

*Albania Mobile: 069 278 260*





# ACKNOWLEDGEMENTS

The consultant is appreciative of the assistance of the staff of the Health Insurance Institute, for support including collection of data and information related to the project and for arranging meetings. In particular, Dr. Naun Sinani also reviewed reports very carefully and contributed to the success of the project.

Also the deliberations of the members of the Technical Commission on issues were invaluable in preparing this report to make it as applicable as possible to the current environment.

The responsibility for the information, analysis and recommendations in this report is that of the Consultant.



# I. INTRODUCTION

## I.1 BACKGROUND

This report deals with hospital funding in Albania. For many years, hospitals in Albania have been funded on an historical and line by line basis. The Ministry of Health has advised hospitals of the number of staff of various types which they are authorized to employ, the pharmaceuticals to order, the equipment they will have, etc. They then provide funding to match these decisions. From year to year, the budgets are based on the previous year's funding with adjustments based on inflation and political factors.

The Health Insurance Institute is preparing to take over funding decisions with respect to hospitals in January 2014, in the event they are requested to do so. In preparation for this, the HII has been planning for a change to global budgeting for hospitals possibly leading to a case mix system.

This report proposes a five year program in which HII could begin immediately with changes to hospital funding which would generate greater equity among hospitals in terms of funding based on population served. In the first 3 years, the incremental changes will be based on several factors described here. Also during this time, HII should improve the data collection process and other factors which will assist in making the changes more accurate and specific. The additional and improved data collected will also enable the HII to move toward implementation of a case mix model which could be used for funding but is recommended to be used only as a method to improve the allocation process by putting cost values to cases treated including resource intensity weights reflecting the cost of services.

## I.2 ESSENTIALS OF THIS PROPOSAL

This report describes a methodology that would use currently available information to begin to improve funding equity among hospitals phasing into a global budget. This funding would be based on the distribution or allocation of a fixed budget from HII among the hospitals. This is distinct from a policy where hospitals would be reimbursed or financed based on services delivered. Over time, the methodology is proposed to be improved by obtaining better data from hospitals.

Global budgeting could be described as a fixed sum level of funding for hospitals which they are empowered to use with limited restrictions. Global budgeting in itself does not require the allocation process to have any particular criteria. It could be based on a line by line calculation or even on an historical basis with no other logic. Global budgeting could also have degrees of control imposed. Using a global budget approach does not mean there cannot be some restrictions imposed on the hospital management as to how the funds are used. If there are too many restrictions, the global budget loses its important purpose of providing hospital management with flexibility in the use of funds to make local decisions that will improve efficiency, effectiveness and quality of care.

The report goes on to advise on what funding allocation decisions may be implemented by HII with the currently available information, how that information may be improved to refine or improve the process and how they may also prepare to develop a case mix model of funding. The report does not recommend case mix as a funding method itself but rather that case mix be used to help with hospital management, with improving the funding allocation process and to assist with hospital comparisons.

## I.3 RATIONALE FOR THIS PROPOSAL

Due to a recent change in government, it is unknown if the current system of health insurance will continue with revenue being generated through premiums and other sources including copayment, deductibles, etc as well as general taxation. The alternative could be a national health system with universal coverage totally based on general taxation.

It must be emphasized that regardless of how the revenue for health care is generated, it is important to fund hospitals in such a way as to improve the equity of funding by region and by

hospital and to put in place the incentives to improve efficiency, effectiveness and quality of care. The changes suggested in this report and others will be useful to improve health care delivery, regardless of revenue sources.

Albania has relatively little funding dedicated to health care compared to most countries. This might lead one to argue for more funding. However, the funds already allocated to health care are not being used very well and there is a general lack of confidence by the public in the hospital system. It follows that if people working in health care wish to argue for more funding, they should maximize the benefit from existing funding first.

## 1.4 PRELIMINARY REQUIREMENTS FOR GLOBAL BUDGETING

Global budgeting could be introduced in the next fiscal year simply by removing the current restrictions on hospitals as to how they can use their funds. This would not be recommended in Albania under the current circumstances.

It is recommended that before introducing global budgeting, certain important changes should take place. These changes are suggested to improve the likelihood that the funds sent to hospitals are used carefully and primarily for the purpose of providing good hospital care for patients. The recommended changes include:

### Governance of Hospitals

Most hospitals in the world have some form of governance or supervisory oversight. In public hospitals, governance is most often in the form of Boards of Directors, representative of the community it serves. Such boards oversee the management of the hospital primarily to ensure the hospital provides the most and best quality services available. In private hospitals, the governance is provided by ownership which has financial success as its primary motivation. Financial success usually is based on efficiency of service and satisfying patients, which also requires good quality care.

Theoretically, hospitals could be governed by a central funding agent such as the Ministry of Health or the Health Insurance Institute however experience has shown that this does not work very well in practice. Governance is different from management and while a certain amount of managerial oversight may be imposed by the funding agent, it cannot replace local governance.

### Skilled Hospital Management

The success of any funding methodology is dependent on the skills of the management team in the hospitals. These skills are what will determine if the funds are used effectively and efficiently, if the incentives built into the funding model are understood and pursued. The motivation that is desired is possible only if the people involved are skilled enough to understand the system.

### Continuity of Hospital Management

No matter how skilled the management team and the strength of the governance process, some continuity of management is still required. The current practice of replacing hospital directors frequently and for reasons other than ability and commitment will never result in improved hospital performance. There should be transparency in the selection process for hospital management, contracts should be for a period of three to five years and contracts should require meeting predetermined performance measures and accountability.

### Control of Corruption

In countries with widespread corruption, it is particularly difficult to make the desired changes. There are many publications focused on controlling corruption in developing countries but the suggested governance, measures of performance and accountability along with transparency are required to begin making a difference.

Failure to make these changes will result in continued waste and poor quality in health care. Should global budgets be introduced before addressing these concerns, one would simply be increasing the opportunity and likelihood of even more waste and diversion of funds.

HII would not have to wait until all hospitals meet a higher standard before moving toward global budgeting. They might offer or plan to implement global budgeting while retaining some controls and perhaps by extending this funding methodology to selected hospitals as they make significant progress. It could become an incentive for improvement.

## 2. METHODOLOGY

This section documents the step by step methodology for allocating Hospital Funding. This methodology is not a mathematical formula but is a series of steps, each of which requires some analysis and consideration.

The Charts provided are intended to illustrate the existing funding situation and a feasible plan to change funding levels over the next 3 years moving toward more equitable funding and hospital bed distribution to better reflect the population needs. Such a plan could begin based on data and information already available in HII. Over the three year period, additional and improved data should be obtained to refine the plan.

For purposes of this proposal, Year 1 will be 2014, Year 2 will be 2015 and Year 3 will be 2016. Obviously this schedule could be set back a year or two but if that happens, it is recommended that the delay be used to improve the information collected and the other systems supporting such data analysis. In this way, when the government makes the decision to move forward, the HII will be well prepared to do so.

The starting point for reallocation is based on 2012 information because that is the last complete year for which expenditure data is available. This could be updated late in 2013 and a subset of the data for that year could be used.

The overall purpose is to use existing data and information to move from the current hospital funding levels to an allocation of funding which is more fair and equitable among regions and hospitals. The assumption here is that only a fixed amount of money is available for hospitals and the objective is to allocate it in the best way possible. Allocation of a fixed amount is distinctly different from a model where hospitals are compensated for the amount of work they do. In the latter model, there is a risk, indeed a probability that hospitals will treat more cases and therefore the budget will be exceeded. International experience over many decades is that hospitals will always use more money than is available, especially if hospitals are reimbursed for activity levels.

Funding hospitals based on an allocation model is considered a zero-sum exercise. That is to say that if additional money is provided to one or a number of hospitals, an equivalent amount must be found by reducing funding to other hospitals. The total amount to be allocated cannot exceed the budget.

It must be emphasized that existing data and information is less than perfect. This paper and process is to illustrate how funding reallocation could take place but it should be used very carefully until data is improved. For example, funding based on raw population will suggest a need for changes of up to 100% for some regions. However, we know that a significant number of people travel from the regions of their residence to Tirana for care or travel from their own region to a neighboring region, but information on these referral patterns is not currently available.

Population information combined with referral patterns would allow us to calculate utilization rates. This is important because international experience illustrates that utilization does not always match need but rather reflects the availability of resources including doctors. It would not be recommended to automatically reallocate funds from regions with low utilization to areas of high utilization for that reason alone. Over-servicing of a population should not be encouraged with increased funding.

The lack of valid cost information means we are unable to calculate the cost of services provided in each region or hospital compared to the value of care that patients seek outside their own regions.

### 2.1 STEP 1 - ALLOCATE BETWEEN TERTIARY AND REGIONAL HOSPITAL CARE

The first step in calculating a reallocation of funding for hospitals is to divide the main envelope with all of the hospital funding available for the country into two smaller envelopes, one for the Tertiary Hospitals in Tirana and one for the Regions. At this time, there is no data or evidence to guide us as to whether the current allocation between these two envelopes should change. This is because we

have very limited information reported from the Tertiary Hospitals, we do not have the data to allow us to calculate how much care is referred from the regions to Tirana and we do not have any measures of cost or value to put on such services.

#### CHART 1: ALLOCATION BETWEEN TERTIARY HOSPITALS AND REGIONS

	2012 Budget Allocations (000 lekë)	% of Total
Tertiary Hospitals	5,881,962	42%
Regions *	8,187,875	58%
Total	14,069,837	100%

\* Including Regional and District Hospitals

## 2.2 STEP 2 - ALLOCATE FUNDING WITHIN TERTIARY CARE PROGRAMS

The next task would be to divide the Tirana envelope into four or five envelopes with funding for Mother Teresa Hospital, one for each of the Maternity Hospitals and one for the Pulmonary Hospital. We could also reserve a portion of the Tertiary envelope to be used for sending patients out of country or to private hospitals if required and on prior approval. At this point, these four or five envelopes should contain the same amount of funding as was provided to these hospitals/purposes the previous year (2012) for the same reasons outlined in Step 1. It may be helpful to inform these hospitals that their funding is constrained for lack of data, to give them an incentive to submit data as required. The reserve amount and the amount allocated for sending patients out of country or to private hospitals could be taken from the total budget before allocations, as described or it could come from the amount of the increase approved by government.

The total population for the region is approximately 840,000 people however, it is not useful to show the budget allocation per population or the bed allocation per population for Tertiary Hospitals because the Tertiary Hospitals not only provide tertiary services to residents of Tirana but they also provide secondary and primary care to Tirana residents and in many cases residents of other regions come to Tirana for care at any level. In short, there is little basis for comparisons among these hospitals at the present time.

#### CHART 2 : ALLOCATION AMONG TERTIARY HOSPITALS

Hospital	Number of Beds	Occu-pancy Rate %	2012 Budget (000's leke)	2012 Budget per bed (000's leke)	2013 Budget (000's leke)	2013 Budget per bed (000's leke)
QSUT	1,410	68.7%	4,749,479	3,368	5,150,835	3,653
Materniteti 1	217	74.3%	427,200	1,969	433,489	1,998
Materniteti 2	163	51.1%	339,740	2,084	346,800	2,128
Sanatorium	124	86.5%	392,630	3,166	419,600	3,384
Private Hospitals						
Out of Country						
Totals	1,914	62.6%	5,909,049	3,087	6,350,724	3,318

It could be argued that there is greater pressure and perhaps need for funding the Tertiary Hospitals than in the Regional Hospitals and this seems to be the case based on simple observation. However, it is not wise to make funding decisions based on perception rather than on data. Also, if the Tertiary Hospitals do not provide information as required in their contracts, they will certainly not begin providing data if they continue to receive funding increases without reporting.

In future, as more and better data becomes available, decisions could be made on the reallocation of funds among these Tertiary Hospitals just as reallocations could be made between the Tertiary Hospitals and the regional funding. For example, the Regional Hospitals are currently funded at about 3 million leke per bed, just slightly less than the funding per bed at the Mother Teresa

Hospital. Similarly, the funding per bed at the Sanatorium is just slightly less than at Mother Teresa Hospital. This needs to be investigated as it would be expected to be much less.

One could also argue that there is merit in reinforcing the regional delivery of care. Continuing to constrain the Tirana funding could result in more funds for the regions which may improve the quality and quantity of care at the regional level.

## 2.3 STEP 3 - CALCULATE OCCUPANCY RATES AND BED USE

In this step, it is necessary to calculate the beds in use in each region and hospital. This is because later, hospital beds numbers will be compared among hospitals based on population and also funding per bed will be used as an indicator. These indicators are not useful if the hospitals are reporting very low occupancy rates.

It is recommended that each Regional Hospital and each District Hospital be reviewed for occupancy rate. For example, Shkoder Hospital while rated as a 469 bed hospital only has an occupancy rate of 31%, meaning it really only functions with an average of 146 patients. If a reasonable occupancy rate is about 75-80%, then perhaps Shkoder should be considered a 200 bed hospital which, with 75% occupancy, would have 150 beds occupied on average. In this report, these are referred to as adjusted beds, ie bed numbers which reflect actual occupancy rates and adjusted for a desired 75% occupancy. Shkoder then would be viewed as a 200 bed hospital and therefore would require staffing and funding for 200 beds not 469. This could mean reducing staff or more appropriately, reallocating the existing staff within the hospital so resources are assigned to work where patients are located.

This could be done for each region (See Chart 3) and for the individual hospitals (See Chart 4). This way, when comparisons such as staffing numbers to beds, or funding per bed, or beds per population etc, are used, it is based on real beds and not largely unoccupied beds. The bed numbers, populations, funding and other indicators may be used to make comparisons between regions.

**CHART 3 BED NUMBERS BY REGION**

Region	Number of beds	Effective beds in use	Adjusted beds	Population	Adjusted beds /1000 pop	Budget 2012 (000 leke)	Budget per bed 000 leke)	Budget per adj. Bed (000 leke)	Budget/ Population (000 leke)
Shkoder	569	183	276	320,842	0.86	837,954	1,473	3,036	2.6
Kukes	372	128	200	111,793	1.79	452,635	1,217	2,263	4.0
Diber	510	192	260	193,710	1.34	629,350	1,234	2,421	3.2
Lezhe	323	143	200	209,331	0.96	523,822	1,622	2,619	2.5
Durres	550	258	365	490,996	0.74	981,512	1,785	2,689	2.0
Elbasan	718	292	435	442,493	0.98	948,611	1,321	2,181	2.1
Fier	670	218	330	466,746	0.71	1,015,874	1,516	3,078	2.2
Berat	385	130	200	219,739	0.91	583,122	1,515	2,916	2.7
Korce	746	253	385	343,175	1.12	973,304	1,305	2,528	2.8
Vlore	483	167	260	351,858	0.74	739,116	1,530	2,843	2.1
Gjirokaster	368	88	155	152,539	1.02	502,575	1,366	3,242	3.3
Total	5,694	1,975	2,966	3,303,222	0.90	8,187,874	1,438	2,761	2.5

**CHART 4: HOSPITAL BEDS BY HOSPITAL GROUPED BY REGION**

Hospital	Number of beds	Beds per 1000 pop	Occupancy rate	Effective beds	Adjusted beds	Adjusted occupancy rates	Adjusted beds /1000 pop
Rajoni Shkoder	569	1.77	32.2%	183	276	67.94%	0.86
Shkodër Regional Hospital	478	2.06	33.2%	159	230	69.1%	0.99
Malësi e Madhe	6	0.12	1.8%	0	6	1.8%	0.12
Pukë	85	2.20	28.8%	24	40	61.2%	1.04
Rajoni Kukës	372	3.33	34.3%	128	200	63.8%	1.79
Kukës Regional Hospital	236	3.88	42.5%	100	140	71.6%	2.30
Tropojë	101	3.42	16.3%	16	30	54.9%	1.01
Has	35	1.64	30.7%	11	30	35.9%	1.41
Rajoni Diber	510	2.63	37.6%	192	260	73.7%	1.34
Dibër Regional Hospital	283	3.34	38.1%	108	150	71.8%	1.77
Mat	162	2.45	33.3%	54	70	77.0%	1.06
Bulqizë	65	1.51	46.3%	30	40	75.2%	0.93
Rajoni Lezhe	323	1.54	44.3%	143	200	71.6%	0.96
Lezhë Regional Hospital	162	1.62	55.1%	89	125	71.4%	1.25
Mirditë	96	2.74	29.4%	28	40	70.5%	1.14
Laç	65	0.87	39.5%	26	35	73.4%	0.47
Rajoni Durrës	550	1.12	46.9%	258	365	70.6%	0.74
Durrës Regional Hospital	340	1.13	57.3%	195	280	69.6%	0.93
Krujë	124	1.56	27.6%	34	45	76.0%	0.56
Kavajë	86	0.77	33.3%	29	40	71.7%	0.36
Rajoni Elbasan	718	1.62	40.7%	292	435	67.2.2%	0.98
Elbasan Regional Hospital	415	1.46	41.9%	174	245	71.0%	0.86
Peqin	30	0.76	11.9%	4	30	11.9%	0.76
Librazhd	158	1.93	43.1%	68	95	71.7%	1.16
Gramsh	115	3.03	40.6%	47	65	71.8%	1.71
Rajoni Fier	670	1.44	32.6%	218	330	66.2%	0.71
Fier Regional Hospital	421	1.66	28.2%	119	170	69.8%	0.67
Lushnjë	215	1.26	46.2%	99	130	76.5%	0.76
Mallakastër	34	0.79	1.0%	0	30	1.1%	0.69
Rajoni Berat	385	1.75	33.8%	130	200	65.1%	0.91
Berat Regional Hospital	258	1.78	38.5%	99	140	70.9%	0.97
Kucovë	53	1.14	37.2%	20	30	65.8%	0.64
Skrapar	74	2.60	15.0%	11	30	36.9%	1.05
Rajoni Korce	746	2.17	33.9%	253	385	65.7%	1.12
Korcë Regional Hospital	500	2.54	39.3%	196	280	70.1%	1.42
Pogradec	150	1.76	22.6%	34	45	75.3%	0.53
Devoll	45	1.14	29.8%	13	30	44.6%	0.76
Kolonjë	51	2.33	18.7%	10	30	31.8%	1.37
Rajoni Vlorë	483	1.37	34.5%	167	260	64.2%	0.74
Vlorë Regional Hospital	368	1.62	33.8%	125	175	71.2%	0.77
Delvinë	30	1.00	6.9%	2	30	6.9%	1.00
Sarandë	85	0.90	47.3%	40	55	73.2%	0.58
Rajoni Gjirokaster	368	2.41	23.9%	88	155	56.8%	1.02
Gjirokastër Regional Hosp	188	2.34	35.2%	66	95	69.6%	1.18
Tepelenë	82	2.09	11.3%	9	30	30.8%	0.76
Përmet	98	2.99	12.9%	13	30	42.2%	0.92
Total	5,694	1.72	34.7%	1,975	2,966	66.6%	0.90

The process here was as follows:



1. Calculate the number of beds per 1,000 population.
2. Multiply by occupancy rate to get average filled beds- called effective beds.
3. Calculate adjusted beds by taking effective beds and add sufficient beds that the resulting occupancy rate is about 75%, round to the nearest 5 or 10 beds.
4. Recalculate adjusted beds per 1,000 population and compare.
5. The number of beds in any small hospital was reduced to no less than 30 beds. This is because it costs no more to operate 30 beds than 20 or 10. The minimum staffing requirements are the same. For these reasons, some of the occupancy rates still look small.

The number of beds per 1,000 population is very low by international rates. The number of occupied beds is lower still. While this is a concern, the adjusted beds still give us more information than a large hospital with mostly unoccupied beds.

Because the adjusted bed numbers are lower than actual is not reason to dismantle the remaining beds as hopefully with a greater confidence by the population there will be use for those beds in future. In fact, it would be reasonable to expect the number of beds in use to increase from the current 1 bed per 1,000 population to about 2 beds per 1,000 population or even more.

## 2.4 STEP 4 - COMPARE FUNDING BY REGION FOR INEQUITIES

This step is to compare the funding by region (including funds for District Hospitals and the Regional Hospital in each region) in order to determine inequities. One should consider funding per population served, per bed, etc to determine if funds are equitably distributed among the regions based on population.

It is evident from this chart that Kukes Region is receiving almost twice the funding per population as Durres. Yet, we know from analysis of the cases treated that Durres handles more cases and more complicated cases than Kukes. While we do not have the data to support this as yet, it is believed that Durres treats many more people than are in its population because of the number of visitors, especially in the summer months.

This information would support the need for an increase in the Durres regional funding and a decrease in the funding for hospitals in the Kukes Region. Similarly Fier appears to be under-funded and Diber over-funded. Funding adjustments may be warranted accordingly. Whether the adjustments should be 5% or 10% is a judgement decision based on the impact such changes would have on the hospitals concerned. This information should be combined with other detail before making a final determination.

**CHART 5: COMPARE FUNDING BY REGION**

Region	Adjusted beds	Adjusted beds /1000 pop	Budget 2012 (000 leke)	Budget per adj. Bed X (000 leke)	Population	Adjustments	Recom'd budget for 2013 (000 leke)	Adjusted budget/ population (000 leke)
Shkoder	276	0.86	837,954	3,036	320,842	Decrease 1%	830,034	2.6
Kukes	200	1.79	452,635	2,586	111,793	Decrease 2%	430,004	4.0
Diber	260	1.34	629,350	2,421	193,710	Decrease 4%	597,882	3.1
Lezhe	200	0.96	523,822	2,619	209,331	The same	523,822	2.5
Durres	365	0.74	981,512	2,689	490,996	Increase 4%	1,030,587	2.1
Elbasan	435	0.98	948,611	2,342	442,493	Increase 2%	996,042	2.2
Fier	330	0.71	1,015,874	3,078	466,746	Increase 5%	1,063,036	2.3
Berat	200	0.91	583,122	3,240	219,739	Decrease 1%	583,122	2.6
Korce	385	1.12	973,304	2,704	343,175	Decrease 2%	973,304	2.8
Vlore	260	0.74	739,116	3,214	351,858	Increase 5%	768,681	2.2

Gjirokaster	155	1.02	502,575	4,188	152,539	Decrease 5%	477,446	3.1
Total	2,755	0.90	8,187,874	2,972	3,303,222		8,265,193	2.5

## 2.5 STEP 5 - ASSESS DISTRICT HOSPITALS

We could then do a comparison of all the District Hospitals. Looking at real beds, compare each hospital based on funding per population, beds per population, funding per bed, etc and determine inequities. There are some immediate and obvious problems - not all the District Hospitals are equal. Some do not operate as hospitals at all and some which do, should not. For example, Malsi e Madhe with 6 official beds and only 2.4% occupancy only has patients in hospital occasionally. A look at the cases they provide each year informs us that they do about 20 normal deliveries. This is not a hospital that should be included in the comparison. Also it could be argued that this hospital should not be doing deliveries since they do not do enough to ensure the doctors maintain a reasonable standard of care. For purposes of this report, the Malsi e Madhe Hospital is left at 6 beds rather than rounding it up to the usual minimum of 30 beds. This is to draw attention to it as an exception.

If the Malsi e Madhe Hospital should continue as a hospital for political reasons, perhaps it should at least be considered for a funding change. Because of its limited activities, consideration should be given to reducing the number of nurses to a minimum. Perhaps two nurses for the day shift, one for the evening shift and one for the night shift. The other essential costs to keep the facility open could be added to make a minimal budget. Services such as grounds maintenance could be provided from the nearest Regional Hospital as required.

The other factor to consider when looking at small hospitals such as this is how far they are from the next nearest center. A District Hospital that is within 20 minutes of a Regional Hospital might be changed to a polyclinic or care center for the elderly rather than to continue as a hospital. It is clear these are difficult political decisions and cannot be made within HII, but it is important to make recommendations based on the data/evidence.

In looking at Chart 6, even after adjustments, it appears there are three hospitals with budgets per population well above the average and a few well below. Consideration would be given to further adjustments. Before doing so, one would look at the circumstances of each. Factors such as whether they provide surgery cases, distance from nearest Regional Hospital, the regional budget, etc.

The hospitals with budgets reduced through this process could be removed from the remaining steps and any funds saved could be put into the larger pot for reallocation or perhaps the savings could be allocated to the Regional Hospital in the region until the remaining reallocation decisions are made.

It is unlikely that there will be changes to the status of any hospitals by January 2014 because this will be the first year for HII funding and it will be early after an election. Such considerations may be made for subsequent funding years, allowing time for consideration of this report in the context of new policy directions.

**CHART 6: COMPARISON OF DISTRICT HOSPITALS**

Hospital	Adjusted beds	Population	Adjusted beds / 1000 pop	Budget 2012 (000 leke)	Bud per Bed in (000 leke)	Budget per adj. Bed X, (000 leke)	Budget/population (000 leke)	Adjustments	Rec'ded budget for 2013 (000 leke)	Adjusted budget/populat'n (000 leke)
Malësi e Madhe	6	49,896	0.12	18,1669	3,028	3,028	0.36	Dec 5%	17,261	0.35
Pukë	30	38,600	0.78	140,238	1,650	4,675	3.63	Dec 5%	133,226	3.45
Tropojë	30	29,563	0.68	131,953	1,306	4,398	4.46	Inc 5%	138,551	4.69
Has	30	21,352	0.70	41,759	1,193	1,392	1.96	Dec 5%	39,671	1.86
Mat	70	66,091	1.06	177,951	1,098	2,542	2.69	Same	177,951	2.69
Bulqizë	40	43,014	0.93	88,972	1,369	2,224	2.07	Dec 5%	84,524	1.97
Mirditë	40	35,043	1.14	158,955	1,656	3,974	4.54	Same	158,955	4.54
Laç	35	74,309	0.47	90,928	1,399	2,598	1.22	Same	90,928	1.22
Krujë	45	79,663	0.56	153,823	1,241	3,418	1.93	Same	153,823	1.93
Kavajë	40	111,365	0.36	140,184	1,630	3,505	1.26	Same	140,184	1.26
Peqin	30	39,232	0.76	32,443	1,081	1,081	0.83	Dec 5%	30,821	0.79
Librazhd	95	81,817	1.16	181,388	1,148	1,909	2.22	Same	181,388	2.22
Gramsh	65	37,937	1.71	150,850	1,312	2,321	3.98	Dec 5%	143,307	3.78
Lushnje	130	170,163	0.76	303,695	1,413	2,336	1.78	Inc 5%	318,880	1.87
Mallakastër	30	43,174	0.69	36,322	1,068	1,211	0.84	Dec 5%	34,506	0.80
Kucovë	30	46,674	0.54	66,645	1,257	2,222	1.43	Dec 5%	63,313	1.36
Skrapar	30	28,441	0.53	104,935	1,418	3,498	3.69	Dec 5%	99,688	3.51
Pogradec	45	85,014	0.53	235,000	1,567	5,222	2.76	Dec 5%	223,250	2.63
Devoll	30	39,461	0.51	50,646	1,125	1,688	1.28	Dec 5%	48,113	1.22
Kolonjë	30	21,893	0.69	107,395	2,106	3,580	4.91	Dec 5%	102,025	4.66
Delvinë	30	29,968	1.00	27,665	922	922	0.92	Dec 5%	26,282	0.88
Sarandë	55	94,265	0.58	184,219	2,167	3,349	1.95	Inc 5%	193,430	2.05
Tepelenë	30	39,283	0.25	128,534	1,567	4,284	3.27	Dec 5%	122,107	3.11
Përmet	30	32,750	0.46	107,644	1,098	3,588	3.29	Dec 5%	102,262	3.12
<b>Total</b>	<b>926</b>	<b>1338,968</b>	<b>0.69</b>	<b>2,860,312</b>	<b>1,399</b>	<b>3,089</b>	<b>2.14</b>		<b>2,824,444</b>	<b>2.11</b>

## 2.6 STEP 6 - COMPARE REGIONAL HOSPITALS

Next, the Regional Hospitals should be compared looking at bed numbers and funding levels relative to the population served. See Chart 7. There are some variations. Kukes has the largest number of beds per population and the highest budget even after an adjustment of 5%.

Elbasan appears low in both cases. We could also compare the funding per adjusted bed and the bed numbers to population served. The objective is to identify those regions that are over or under funded per 1,000 population, or per bed and/or those with greater or fewer beds per population than others and begin to reduce or increase their funding.

The money saved could be allocated to those hospitals that are deemed to be underfunded or have too few beds for their population or which have less funding per bed. All of these variables are useful in making decisions to increase or decrease funding levels. Also, remember it is a zero sum game.

Funding may only be increased in the amount that it is reduced elsewhere. Before making funding decisions based on this analysis, proceed to completion of Step 7.

**CHART 7 COMPARISON OF REGIONAL HOSPITALS**

Hospital	Adjusted beds	Population	Adjusted beds / 1000 pop	Budget 2012 (000 leke)	Budget per Bed (000 leke)	Budget per adj. Bed (000 leke)	Budget/ pop (000 leke)	Adjustments	Recomm'd Budget for 2013 (000 leke)	Adjusted budget /pop. (000 leke)
Shkodër	230	232,346	0.99	679,547	1,422	2,955	2.92	Same	679,547	2.92
Kukës	140	60,878	2.30	278,923	1,182	1,992	4.58	Dec 5%	264,977	4.35
Dibër	150	84,605	1.77	362,427	1,281	2,416	4.28	Dec 5%	344,305	4.07
Lezhë	125	99,979	1.25	273,939	1,691	2,192	2.74	Same	273,939	2.74
Durrës	280	299,968	0.93	687,505	2,022	2,455	2.29	Inc 5%	721,880	2.41
Elbasan	245	283,507	0.86	583,930	1,407	2,383	2.06	Inc 5%	613,127	2.16
Fier	170	253,409	0.67	675,857	1,605	3,976	2.67	Inc 5%	709,650	2.80
Berat	140	144,624	0.97	411,543	1,595	2,940	2.85	Same	411,543	2.85
Korcë	280	196,807	1.42	580,264	1,161	2,072	2.95	Same	580,264	2.95
Vlorë	175	227,625	0.77	527,232	1,433	3,013	2.32	Inc 5%	553,594	2.43
Gjirokastrë	95	80,506	1.18	266,396	1,417	2,804	3.31	Dec 5%	253,076	3.14
Total	2,030	1,964,254	1.03	5,327,562	1,460	2,649	2.71		5,405,901	2.75

## 2.7 STEP 7 - COMPARE BEDS AND FUNDING TO POPULATION

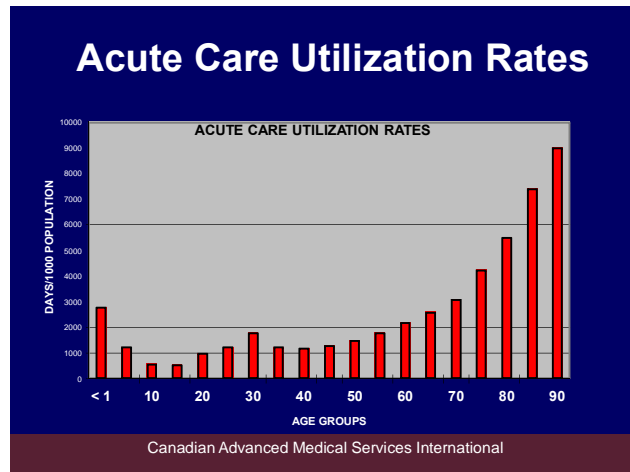
To this point, the methodology provides a comparison of hospital beds per thousand population and funding per thousand population. The population figures used are simply the total population resident in each region and district as reported in the HII Primary Care Division of HII. This source of population information was used to be consistent with their use in Primary Care, rather than using 2 different sources of population data within HII. The next step is to adjust these population figures to recognize the differences in the demographics of the population. Specifically, the age structure of each region may differ in that some areas will be older or younger than others. This is important because the data will show us that more hospital care is consumed by the elderly than by younger people. The following graph demonstrates this fact from an international setting. In this particular area of 4 million people it is shown that almost 50% of hospital care days are used by people over age 65 years. In this area, the average life expectancy is about 80 years. In Albania, where the life expectancy is lower, and the rate of hospital use is lower, it might be expected that increased hospital use begins at age 60.

When data is available showing the number of cases and the number of bed days consumed by age cohort in Albania, it will be possible to construct a similar graph representative of this area. This information will enable the adjustment of population demand adjusted for age.

Based on a cursory look at the hospital use in Albania it appears there is a higher hospital day use by pediatrics than is found in most jurisdictions. This is probably due to the cultural pattern although international experience suggests that considerably more treatment of pediatric patients can be done outside of hospital rather than inside.

If it is found that 50% of hospital care is consumed by people over age 50, then areas of the country with populations of perhaps 20% over age 50 might expect and require more funding than an area with 10% over

age 50. In fact, the difference might be expected to be 25% greater. With this added information the Charts could be adjusted for age differentials and funding adjusted accordingly.



## 2.8 STEP 8 - ADJUST POPULATION SERVED BY REFERRAL PATTERNS

The next step is to further adjust the applicable population served in each region and district based on the number of residents leaving and entering a different region for their care. For example, if 20% of the population of a region leaves their district/region of residence to seek hospital care, then it might be logical to reduce the population served in that region by 20%. The opposite is also true and that is if 10% of the care provided in a region is for residents from outside the region, then the population could be adjusted upward accordingly. The net change after both adjustments could be reflected as a net 10% reduction in population served.

If the costing software data submitted by each hospital were to identify the age of the patient, the patient's place of residence and the length of stay, it would allow the calculation of the distribution of care. The costing software also identifies the cost of each case provided which would allow the calculation of the cost of care provided to each patient both in and out of the region of their residence.

## 2.9 STEP 9 - REALLOCATION WITHIN EACH REGION

The next step would be to look within each region and determine if each District Hospital is appropriately funded compared to the other District Hospital(s) and to the Regional Hospital, in the same region. For example, in Lezhe Region it appears the Mirdite District Hospital has as many nurses as the Lezhe Regional Hospital even though Lezhe Regional Hospital serves more than twice the population and has more than three times the number of beds occupied on average. Such inequities within each region should be addressed. Consideration should also be given to distance between centers. As Mirdite is only 20 minutes from Lezhe, that should also be considered. Sometimes we will find reasons for such apparent inequities. Perhaps for example, there is a surgery program in Mirdite and that may explain the funding situation. We should look at the cases performed before moving on. If Mirdite performs as many surgeries as Lezhe, perhaps that is a good reason for them to have more staff than in other District Hospitals.

The same analysis could be done for each region and recommendations made for changes. Whether the changes should be between hospitals in the region or outside may depend on the funding per regional analysis done above. Some of these recommendations may be appropriate for 2014 and many will be better considered for future years. This is due to time limitations and the need for consultation between HII and hospitals as described in a subsequent section.

## 2.10 STEP 10 - DETERMINATION OF THE INCREMENTAL ADJUSTMENTS

With all of the analysis completed it is possible to identify the level of funding that is appropriate for each hospital. If an upward or downward adjustment of more than perhaps 10% is required, it may be advisable to make the adjustment over a 2 or 3 year period. This is to recognize that hospitals are a source of employment in small communities and major change can be disruptive if done all at once. If funding is lowered, staff will have to be reduced. Presumably the funding saved in one hospital will be transferred to another hospital. In some cases, the staff lost could be hired in a neighboring hospital with increased funding or to replace retiring staff.

It is important that changes be managed carefully and with input from the communities affected. A subsequent section on communication between HII and hospitals deals with this transition process.

The final chart would show the various adjustments for different reasons and accumulate those for consideration. This chart can only be prepared when total budgets available for hospitals are known and when policy direction is determined.

# 3. MANAGING THE HOSPITAL FUNDING PROCESS

## 3.1 ORGANIZATION OF HII FOR NEW RESPONSIBILITIES

For the past several years, the HII has managed the flow-through of the funding from the Ministry of Health. This has required little decision-making on the part of HII because the Ministry of Health made it clear how much of the funding was to be distributed to each hospital. This function has been managed by the Economics or Finance Department of the HII.

In future, there will be need for a Department of HII to take on responsibility for the determination of how much funding goes to each hospital. It is recommended that this function be assigned to the Hospitals Department for two primary reasons. One is that it is good financial management to separate the function of funding determination and the management of the distribution of funds and the financial record keeping. The second reason is that while the Economics Department is composed of people skilled and knowledgeable in accounting for funds, it is the Hospitals Department that should be most well informed on the matter of how well hospitals are managing their activities to best deliver services to the population they serve.

The two departments, Hospitals Department and Economics Department will need to work closely together. The Economics Department will continue to manage the distribution of funds, keep financial records, provide regular financial reports on hospital spending, etc. They will need to continue to receive financial reports from hospitals but the Hospitals Department will also need reports from hospitals on matters of patient care, hospital management and performance including financial performance. For these reasons, both departments need to work together. The HII should deal with hospitals as one entity so that hospitals recognize that HII is well coordinated.

## 3.2 PRELIMINARY CONSULTATION WITH HOSPITALS

While the HII technically and legally should be able to independently change the allocation model of funding hospitals, it is important that there be some processes observed in the determination and implementation of the new funding model. It is important to involve the management of the hospitals. This is for three reasons:

- First, it is impossible for HII staff to understand all aspects of care delivery in each hospital or region they serve. A preliminary consultation with the hospital directors will be an opportunity for hospital directors to advise HII of any unique characteristics or concerns of the directors.
- Second, it is important that hospital directors feel they are part of the team to deal with funding matters. If they feel involved, they are more likely to work with HII to manage the hospitals well.
- Third, involvement of hospital directors is an opportunity to assist in building their management skills and commitment to good hospital care. If they are expected to be aware and knowledgeable of all aspects of hospital care in their areas, perhaps some of them will become more involved.

It is recommended that HII staff prepare the funding allocation model and the proposed changes to the funding of each hospital early in the year before the funding changes are to take place. For funding changes to take place in January 2014 for example, it is important that the analytical work take place in the summer months of 2013 and be approved in principle by the HII senior officials, the Minister of Health, the Administrative Council and possibly even the Council of Ministers.

With that approval in principle, it is recommended that there be a small team of senior officials from the HII who visit and meet with the Directors of the hospitals in each region. These meetings may also benefit from the attendance of the Regional HII Office Director and Finance Director. The representatives from the HII could include the Hospitals Director, the Economics Director and the

Medical Advisor to the General Director. In addition, a support staff or two could be included, such as a data analyst who is able to explain the source and meaning of the information presented.

The purpose of these meetings would be to present to the Hospital Directors the following information:

- An introduction to the new funding methodology.
- A clear indication of the changes to the funding levels of the hospitals.
- The requirements of the hospitals in return for the funding.
- A sample of the Funding Contract that they will be asked to sign.

Such a session could be expected to require about 2 hours perhaps 10:00- noon. Then in the afternoon, perhaps 1:00- 3:00 PM there could be a discussion session dealing with the following topics:

- How the hospitals can adapt to the new funding model and levels.
- What staffing changes are required to enable the hospitals to live within their budgets and adjustments required to fully utilize their budgets.
- If a District Hospital is to close or if certain hospital services are to be transferred from one facility to another, how will that be managed.
- The importance of reporting complete and accurate information as required by HII.

There are several purposes for these sessions including the following:

- Hospitals are more likely to cooperate with the HII and comply with their new directions if they feel they are well informed in advance of the proposed changes, if they have an opportunity to influence the changes and participate in a discussion of the implications of the changes.
- The hospital managers will be expected to become better informed and more involved in the operations of the hospitals.
- The HII will benefit in that the hospitals may have some legitimate information on the uniqueness of their region, health needs of their people and other factors that maybe were not taken into consideration in calculating the funding changes.
- The hospitals will have a greater opportunity to implement changes in their operations if they are able to begin thinking about the funding levels in advance of them being implemented.
- The HII may use this opportunity to reinforce with the hospitals that the funding is now being provided by HII and that HII is entitled to require and receive certain information and reports in return.
- The HII may also use this opportunity to obtain a greater understanding of the management skills, interest and commitment of the hospital directors and their senior staff. This could lead the HII to change the funding contract to ensure strengths and weaknesses are considered.
- Sessions such as these may also serve to provide incentives to the hospital directors to become more involved and knowledgeable of the operations of the hospital if they believe changes are coming and that they may be provided with an opportunity to influence these changes.

### 3.3 ON-GOING CONSULTATION WITH HOSPITALS

It is strongly recommended that the HII introduce and undertake a series of sessions with hospitals in each region. These sessions could include the senior management of the Regional Hospital, the two District Hospitals and the staff of the Regional Office of the HII. These could be called information sessions or operational reviews and should be scheduled quarterly. For example, meetings could be scheduled in January, April, July and October of each year. In practice, the July meeting might be considered optional for those hospitals which are on or below budget, seem to be having no problems and are current with their reporting requirements. The logic in this cancellation is to avoid having a meeting during the heat of summer when many staff members are unavailable due to vacations.

The purpose of these sessions would be to review the progress of each hospital against their budget and operational plans. The HII should come prepared with statistical analysis, financial reports,



information from the hospital and comparable information from other similar hospitals or peer groups. HII could report to each hospital some performance indicators and they could have a number of questions to ask or issues to discuss. Another discussion point might be the possible introduction of a new clinical service in the region or a transfer of some services from one hospital to another.

As with the initial consultation related to budgets, these meetings will serve to keep HII informed of progress in each hospital and it will send a message to each hospital that they are being monitored carefully.

### 3.4 HOSPITAL PERFORMANCE INDICATORS

The HII, as part of the annual funding contract, should identify the information they require of the hospitals and the expected timelines. Some of these performance indicators can be calculated by HII based on information submitted to the HII by hospitals.

Performance indicators may be categorized in several different ways. For example, some are hospital performance specific (such as length of stay) but at HII each hospital may be compared to all other hospitals. Some are regional, such as rates of utilization (number of cases of any type of service) and these can be compared at HII against regional populations for national reports. National statistics are also kept on indicators such as mortality, morbidity etc which can be used as a comparator for individual regions and hospitals.

The HII has established a number of hospital and performance indicators, which they report and analyze as part of their monthly submissions. For example, these include: the health status of patients discharged, the number of normal childbirth deliveries (Albania has a high Cesarean section rate), number of surgeries by type, number of patient days by service, average length of stay, bed occupancy rates, bed turnover, number of tests by type, per cent of patients readmitted in 28 days, per cent of costs that go to patient care and the per cent of medical staff involved in training.

It is recommended that the HII use the quarterly meetings with hospital management to discuss and identify appropriate performance indicators that hospitals should collect and report and those which the HII should report back to hospitals in the form of peer group comparisons. Peer grouping refers to the process of grouping hospitals into groups which are somewhat comparable to each other. For example, the Regional Hospitals would be a logical peer grouping and perhaps the one with the greatest commonality. The District Hospitals would be another logical grouping but may be made more relevant by breaking them into two peer groups, one including the larger District Hospitals which have surgical services and the other smaller District Hospitals without surgery. The least homogenous peer group would be the tertiary hospitals. They are less comparable because Mother Teresa Hospital is currently the only full service tertiary, teaching hospital. It is reported that the Pulmonary Hospital is being redeveloped to provide more general service work rather than being restricted to Pulmonary/Rehabilitation services. Within this peer group, the two Maternity Hospitals would be comparable to each other but less comparable to the other Tertiary Hospitals.

When the HII receives performance indicators from hospitals, these may be electronically combined into the peer groups and comparative analysis added for ease of interpretation by senior staff. In many cases, the HII may generate the performance indicators from raw statistics submitted by the hospitals. The simplest example is length of stay (LOS). The hospitals submit information on the date of admission and date of discharge of each patient which allows calculation of the length of stay. The LOS could then be calculated for each department of each hospital. Other hospitals should be interested in the LOS of each department in the hospitals in their peer group. When a hospital with a comparable patient and service is showing a low LOS, other hospitals might contact them to learn what steps they took to achieve the lower LOS. In that way, hospitals learn from each other and tend toward a better quality of care and a more efficient, effective delivery of care.

Another performance indicator is the number and therefore the proportion of patients from a region which receive their hospital care in their own region versus those who go to another region to get care, whether by choice or as a result of some urgency. At present, this information is theoretically collected and reported by each hospital for each patient admission but it is clear that this information goes unreported in many, if not most cases. Such reporting omissions must be addressed through auditing and training of hospital staff completing the Kartellas and costing software.

Performance measures may be collected at several different levels and provided to several different audiences.

For example, at the national level, many indicators are already collected in accordance with World Health Organization guidelines. Some of these include:

- Life expectancy in years for males and for females compared to other countries
- Age standardized mortality rates or cause of death due to the top five or ten diseases or conditions compared to other countries
- Tobacco use compared to other countries
- Infant mortality rate compared to other countries and by region of Albania
- Perinatal mortality rates compared to other countries and by region of Albania

At the regional level, some measures related to utilization and resource supply could include:

- Health care resources available, ie beds, doctors, nurses, etc
- Rates of certain procedures, ie Caesarian sections,
- Outcomes of various procedures, ie mortality due to child birth etc
- Hospital performance such as infection rates, readmissions due to infection etc.

At the hospital level, performance indicators may be grouped in any number of ways. For example:

- Financial Performance
  - Reporting on expenditures against budgets (already well established)
  - Management financial data such as cost per bed, per patient day, per meal, etc
  - Clinical cost data such as cost per natural delivery, per hernia treatment etc
- Hospital Clinical Performance
  - LOS by Department by Service
  - Proportion of out-patient and day surgery
  - Infection rates and readmissions
  - Morbidity at discharge
  - Physician specific rates of performance
  - Among clinicians, the rate of prescription use, of laboratory use, etc.
  - In operating rooms, the time required to clean up and prepare for next procedure
- Quality Improvement Performance
  - Clinical Guidelines/ Protocols/pathways
  - Medical Staff meetings
  - Continuing Education for staff
  - Infection control
  - Hand washing compliance surveys
- Patient Satisfaction Performance
  - Patient surveys at Out-patient/Emergency
  - Patient surveys from in-patient departments
  - Public surveys
  - Cleanliness of the hospital
  - Courtesy of staff and respect shown for patient concerns
  - Privacy of discussion between patient and provider
  - Time required to wait before seeing the doctor

It is important to note that while the above provides a series of examples of performance indicators, there are many more and there should be discussion at the hospital level and between hospitals and

HII to identify additional indicators which are most relevant to Albania. Involvement of the hospitals is important because they will be the source of much of the data and they need to be committed and understand the reasons for collecting such information if they are to comply. The quarterly reviews of hospitals with HII would be a good forum in which to address such issues.

Once collected, it is important that HII put the indicators into a format that can be distributed to all hospitals so that the hospitals see the benefit of their work. If they do not see this feedback, it will fail as a tool for education and change and the hospitals will have no reason to comply.

### 3.5 DOCUMENTATION OF POLICY AND PROCEDURES

An important factor in the process of funding hospitals, monitoring their activities and measuring their performance is to document all policies and procedures. The laws and regulations governing HII will be enacted by government and HII will be bound by their direction. Within that framework, there will be ample opportunity to create policy and procedure of hospital funding and the duty of HII to ensure value is received for that funding. HII should adopt a policy of full disclosure and transparency in this process.

It is recommended that a Policy and Procedure Manual be produced which includes:

- The Laws and Regulations from Government
- The Policies and Procedures of HII and MOH
- The Funding Letter or Contract for each hospital
- The statement of expectations of hospitals should be clearly stated in return for funding such as reporting requirements, time schedule for reporting, etc.

These manuals would be held by HII senior staff but also copies should be made available to each hospital and changes be circulated as required. In the past, such a document would be paper based but now, it is feasible to have all of this maintained electronically from HII and made accessible by the appropriate authorities. Any changes would be notified to the appropriate contract managers by e-mail.

Part of the logic for such an approach is to clearly state expectations of each hospital and to be transparent in the dealings with hospitals. It is also important that there be no misunderstanding about expectations. The consequences of missing reporting timelines should be made clear in advance.

There should also be a scheduling process that takes place in HII to identify for all concerned the expected dates for various events to take place. For example, if we know that the funding contract for each hospital needs to be issued at December 1 for the following year, it can be calculated that in order for HII to present the budget to Administrative Council and government, all preparations need to be done by November 1. Because the funding contracts should identify changes in services expected, all additions or reductions of service levels should be finalized by October 1. Because all reporting requirements of hospitals require IT involvement for software programming, testing and training it is required that all change requests be submitted by April 1, etc.

Such an approach would have HII operate on a more business like basis and staff should be ready for each event without waiting for a direct order from a superior. Of course, the General Director would be expected to approve the schedule annually and add tasks to the schedule that would enable the completion of all tasks in a timely manner. Such a schedule would normally flow from the annual work plan, strategic plan or operational priorities established by the executive. Each task should also have an executive member identified and assigned to lead the effort for completion of the tasks.

The keys to success of the operations of a large organization is a clear identification of tasks and delegation of responsibility for completion of tasks so that the management hierarchy need not be involved in each order but rather be involved in the executive review of progress on each task. Such a program also assumes the General Director will have regular executive committee meetings of senior staff and each executive staff member in turn will have departmental staff meetings so that there is full communication of all expectations.

## 4. COSTING OF HOSPITAL SERVICES

The costing of hospital services is an important component of managing the provision and funding of hospital care. There is a belief in the HII that costing could be used as part of the process of funding hospitals and in putting value to a package of services. In fact, the primary purpose should be for providing hospital management with information that will enable them to make informed decisions about allocating resources within the hospitals. In this way, management can control costs and manage within their budgets and this becomes particularly useful when hospitals are funded on a global budget basis.

In addition, HII should pursue good cost information so they are able to compare hospital activity and performance. HII will also regularly want to consider additions or reductions in services provided at hospitals. The cost of services is necessary to know how much funding should be added or removed with such changes.

At the present time, the available cost information for hospital services comes from costing software that was developed over the past couple of years by the HII. There are some fundamental problems with this costing methodology which need to be addressed. The first concern is that the hospitals allocate costs to each service based on the total costs of the department generating the services divided by the number of services. This means that if a department generates or produces 10 procedures over the course of a month, its cost per procedure will be about ten times greater than a similar department generating 100 procedures. This comes about because at the present time in most hospitals in Albania, staff and other input costs are not allocated to meet activity levels but rather are allocated to departments as instructed by the Ministry of Health regardless of activity levels.

The second primary concern about costs that are developed by hospitals at the present time comes from the fact that certain costs of inputs such as meals, examinations and blood products are not really costs at all but are the prices charged to patients as instructed by the Ministry of Health. While these may serve a useful purpose as prices they should not be used as costs.

The following tables showing different costs for the treatment of the same diagnosis as calculated in different hospitals illustrate the concern. Chart 7 compares the costs attributed to a normal obstetric delivery in each of the Regional Hospitals. This is typically the most common procedure or diagnosis treated in hospitals. It shows that even with very large volumes there is a large range of costs, from under 13,000 leke in Durres to over 37,000 leke in Gjirokastra. The average cost is slightly less than 20,000 leke.

Chart 8 illustrates the costs of treating Bronchopneumonia in District Hospitals, as calculated by the costing software currently in use. Notice that the cost ranges from a low of under 27,000 leke in Kucove to a cost of over 100,000 leke in five District Hospitals. The cost in Malakaster could be ignored because they treated only 2 cases in the year. The average cost in all District Hospitals is 51,740 leke per case of Bronchopneumonia. The cost in Regional Hospitals averages slightly over 45,000 leke.

**CHART 8: COSTS OF NORMAL DELIVERIES IN REGIONAL HOSPITALS**

ICD9 (650)  
Lindje ormale

Spitali	number of cases	Total of expenditures	average days of staying	average cost per case
Berat	557.00	9,581,842.00	1.80	17,202.59
Diber	897.00	23,774,926.00	4.15	26,504.93
Durres	3,123.00	39,422,776.00	2.66	12,623.37
Elbasan	987.00	17,857,125.00	1.94	18,092.33
Fier	1,215.00	25,819,929.00	2.11	21,250.97
Gjirokastr	143.00	5,348,465.00	2.99	37,401.85
Korce	854.00	16,892,881.00	1.74	19,780.89
Kukes	1,337.00	29,078,715.00	4.82	21,749.23
Llezhe	730.00	12,182,263.00	2.09	16,688.03
Shkoder	1,073.00	25,332,176.00	1.81	23,608.74
Vlore	656.00	19,362,440.00	2.12	29,515.91
Total regional	11,572.00	224,653,538.00	2.66	19,413.54

**CHART 9 : COSTS OF TREATING BRONCHOPNEUMONIA IN DISTRICT HOSPITALS**

ICD9 (485)  
Bronkopneumonia

Spitali	Number of cases	Total expenditures	Average days of staying	Average cost per case
Bulqize	195.00	7,358,375.00	8.46	37,735.26
Delvine	27.00	5,100,876.00	8.22	188,921.33
Devoll	221.00	10,555,093.00	6.82	47,760.60
Gramsh	124.00	5,256,586.00	3.73	42,391.82
Has	225.00	7,533,824.00	8.68	33,483.66
Kavaje	183.00	6,823,884.00	4.61	37,288.98
Kolonje	33.00	3,614,102.00	7.09	109,518.24
Kruje	178.00	11,527,735.00	6.23	64,762.56
Kuçove	89.00	2,358,101.00	7.01	26,495.52
Lac	133.00	6,472,500.00	7.71	48,665.41
Librazhd	158.00	6,881,078.00	7.58	43,551.13
Lushnje	926.00	25,385,989.00	4.27	27,414.67
Mallakaster	2.00	2,214,267.00	5.50	1,107,133.50
Mat	462.00	24,261,023.00	7.35	52,513.04
Mirdite	123.00	6,790,507.00	6.63	55,207.37
Peqin	56.00	9,868,643.82	6.57	176,225.78
Permet	118.00	6,837,820.00	5.90	57,947.63
Pogradec	202.00	13,243,431.00	4.88	65,561.54
Puke	190.00	15,371,743.00	7.35	80,903.91
Sarande	132.00	5,867,355.00	5.12	44,449.66
Skrapar	27.00	2,868,003.00	5.96	106,222.33
Tepelene	29.00	2,158,207.00	5.59	74,420.93
Tropoje	114.00	15,888,020.00	7.72	139,368.60
Total district	3,947.00	204,237,162.82	6.16	51,744.91
Total regional	3,823.00	173,325,258.00	6.15	45,337.50
Total	7,770.00	377,562,420.82	6.16	48,592.33

The concern in assessing these cost differences is the purpose for which the costs might be used. If the HII were to use the costs as calculated currently for the purpose of funding hospitals based on the number of services delivered times the cost per service, the difficulties would be whether to use the average cost, the cost for each hospital or the lowest cost.

If the average cost were used, it is obvious that some hospitals would be unable to survive financially. For example, if the District Hospitals, whose current cost of treating each case of bronchopneumonia were paid only 50,000 leke, they would have significant losses of revenue. If this were extended to paying for all services on the basis of the average, more than half the hospitals would be unable to remain in operation.

If each hospital were paid or reimbursed on the basis of their previous year's cost per service, there would be no difference in the funding except as represented by the number of services performed. This would serve no purpose in that the hospital would continue with the same payment formula whether they were efficient or not. No incentive would exist for improvement.

If each hospital were paid the lowest cost per service, again the funding shortfall would threaten the viability of most hospitals.

The HII costing software was an excellent beginning to the costing process. The introduction of this process has generated some interest and considerable training among staff in all hospitals as to the importance and process required to identify costs. It may be improved over the next few years. Consideration should be given to adopting the adjusted bed numbers suggested in this report. This will smooth out the occupancy rates among hospitals and reduce the disparities in costs due to inappropriate staff assignments and occupancy rates. Also, the costing software should be changed so that real costs of examinations, blood and plasma, dietary etc are used rather than the prices as set by the Ministry of Health. The prices could continue to be used for purposes of charging patients their share but this should not be used as a substitute for costs. On the other hand, the costing methodology could be changed to represent a reasonable cost per service based on real inputs and based on clinical guidelines or protocols which would standardize the treatments to meet international, evidence- based guidelines. Costs calculated in this way could be used for funding with a reasonable expectation that, over time, hospitals should be able to generate sufficient revenue to continue to operate. The difficulty would be whether the government would be able to fund hospitals sufficiently to meet the cost of all the services to be delivered.

An improved methodology for costing of services is currently being developed at the EEHR pilot projects in which top-down costing is being implemented. It is expected within one year that there will be costs available for most services. It is common to calculate such costs in several hospitals to generate a representative average. It is not necessary to calculate costs for all services in all hospitals although doing so provides a hospital specific cost, which can then be compared to the average.

In one year, the cost of services as calculated by the HII costing software could be compared to the costs calculated by the top-down costing methodology implemented in the pilot hospitals. This will enable a comparison of the two and perhaps lead to more changes that would merge the two approaches.

Having identified the shortcomings of the costing software for the purpose of calculating costs of services, it is important to emphasize the strengths and benefits of the costing software.

- First it has been a very important process to introduce the concept and process of data collection and reporting to all of the hospitals.
- It has resulted in the training of staff and technical capacity of hospitals to report their activities to the HII.
- While the software may not have resulted in the desired objective of generating accurate costs per service, it has been successful in establishing the process of reporting activity. This is a necessary component of any funding model chosen for the future.

## 5. MOVING TOWARD IMPLEMENTATION OF CASE MIX

The HII has expressed an interest in moving toward a DRG or case-mix system of funding. This is discouraged for various reasons. It is very expensive to implement and manage such a system. The cost of software, time to train HII staff and time to train hospital staff is extensive and consumes valuable health care resources. In most countries, it is a 5-10 year commitment or longer to develop a DRG or case-mix system capable of being used for funding purposes. The expense must be viewed in the context of total health care spending. Because much of the hardware and software and consulting time required would be at international rates, the cost of administration to total health spending would be unacceptably high. That is, too much health care would be sacrificed for minimal gain.

Also, case-mix is not recommended as a method for direct funding. The reasons are similar to case funding or fee for service. When funding is fee of service, the number of services delivered will increase over time and the HII commitment to pay for each service will result in expenditures exceeding budgets or the need to pay hospitals at a discounted rate. If the budget is exceeded, government will be unhappy. If hospitals are paid less than agreed, they will be unhappy. This tends to cause even more services to be delivered in order to generate more revenue.

If case-mix is pursued, it is suggested its greatest value will be for HII to compare workload activity among hospitals. Hospitals performing fewer cases or cases of lesser value would then have their annual global funding adjusted accordingly. This is a worthwhile objective. The question must be “is it worth the cost?”

The changes recommended in this report especially as it pertains to collection of data and hospital reporting will enable the HII to move toward case-mix calculations in time if it chooses to do so.

Most specifically, the cost reporting currently submitted by the hospitals to HII could continue to be reviewed and changed to better reflect the actual situation. Consideration could be given to:

1. Moving to ICD 10 for diagnosis reporting. At the moment, Albania is using ICD Version 9 which is sufficient for its purposes. Most countries are using ICD 10 and will be moving to a higher version within 2 years. It is better for Albania to make this shift earlier than later.
2. HII should begin the process of establishing a Chart of Statistics. This will help to standardize the information submitted by hospitals so that comparisons are meaningful. If two different hospitals calculate Average Length of Stay differently, it makes it useless to attempt to compare and to assign costs and other attributes to the information.
3. HII should develop a Chart of Accounts which like the Chart of Statistics, creates a common language among hospitals for purposes of comparing activity levels and costs. The current instruction manual used for training staff on the costing software would be considered a rudimentary version of a Chart of Statistics and Chart of Accounts.
4. A necessary component of the use of such Charts is the reliability of the reporting and coding by the physicians and the support staff in hospitals. It is necessary to have an ongoing process of training and of auditing results. Auditing may entail a dedicated team of staff who visit and spend days at a time in hospitals reviewing the coding procedures and sampling actual submissions to ensure compliance with the procedures. This is currently a problem and it will become even more acute with more complicated procedures.
5. HII should continue to revise and refine the costing software each year. This requires the Hospitals Department and the Finance Department of the HII to meet regularly with the

Information Technology staff to identify opportunities to improve reporting. For example, at the present time some information is included in the costing software which is recorded in a narrative fashion. This cannot be interpreted by the HII computers and is therefore somewhat useless because it cannot be compiled, compared or analyzed. For example, hospitals may submit drugs used for a patient but these are recorded by name. It is important to identify each drug by a code. Such a coding system needs to be developed for all possible drugs used in hospitals. Even identification of a department in a hospital is entered by name rather than a code. This is further aggravated by the fact that each department could be identified or spelled in a hospital differently. Pathologi could be identified as Pathology, pathologi, general medicine etc and although all mean the same thing, the computer recognizes them as different entities.

6. In addition to the process of improving reporting, it should be a regular on-going process to identify information that should be added to the submissions. For example, at present, patient ages or date of birth are not recorded on a Kartella submission. Age or date of birth not only assists to identify patients of the same name but also it provides a dimension to the database which identifies the amount of care to people of various age cohorts. This is important in the funding model and general analysis of disease and consumption of health care. Similarly, hospitals should be identifying the place of residence of each patient admitted. This needs to be coded so that every region, municipality, village or even postal code is identified. This information is needed to develop analysis of where patients go to access hospital care. Such information is needed to identify the appropriate funding levels. A hospital should not be funded based on the number of people in its catchment population but be adjusted for the proportion of care provided to those people and to be further adjusted by the patients who come from outside that region.
7. At present, the HII instructs hospitals as to what information they should collect but only selected preset reports are generated and submitted from this information. This limits the use of the information available to HII. It is recommended that the full databases of each hospital be accessible to the HII on a regular basis.

The points identified above represent major initiatives and illustrative changes that should be pursued by HII. They will be useful, indeed necessary, for successfully funding hospitals whatever model is chosen. They will also be required if and when a DRG model of funding is used.

If at some point in the future, DRG systems are pursued, it is recommended that the HII identify the neighboring countries that use a DRG system and the model they use (ie the USA model, or the Australian model or their own adapted model) and study the features of each for application in Albania. Another factor is the inclination of those neighboring countries to cooperate in sharing their information. HII should also explore the possibility of asking one of these countries to actually run the database (collection of all data from hospitals for one year) from Albania through their grouper or computer process. This will not be simple because the database would have to comply with all the data field definitions of the grouper but doing this may be much cheaper than purchasing a grouper and adapting all the database submissions to it. It will not be easy or quick in either case.

The References section below identifies a great deal of resource material on DRGs, case-mix etc and if travel is permitted, there are annual conferences and seminars held in Europe each year for education and information exchange on the topic.



# 6. SCHEDULE FOR CHANGES

## 6.1 YEAR 1

### Re: Funding

In the first year, possibly effective January 2014, proposed changes should be relatively minor and be based on currently available data. The objective would be to make funding adjustments that would move hospitals in a small way in the desired direction, which is greater equity of funding between regions and hospitals. The purpose would be to deliver a message to the hospitals that the HII has control of hospital funding, that there will be changes and their participation is invited.

In order to make changes in January 2014, it is important that HII officials prepare the proposed changes and meet with hospital directors in October/November of 2013 as described in Section 2.2.

### Re: Global Budgeting

Consideration should be made as to whether to introduce global budgeting to any of the hospitals. This determination could be based on the factors raised in Section 1.4. Perhaps Durres Regional Hospital could be the first to receive global budgeting rights and the HII should consider if any restrictions are placed on spending flexibility.

The HII team as discussed in Section 2.3 should hold quarterly meetings with hospital directors both to build a working relationship with hospitals and also to identify any problems arising as a result of the funding changes introduced in 2014 and perhaps planned for introduction in 2015. In addition, the HII and hospitals can discuss desired changes in the package of services being delivered by hospitals.

### Re: Information

During 2014, HII should identify and plan to introduce any changes to hospital reporting effective 2015. Such decisions will need to be taken by summer to enable the IT Department to prepare the changes to the software, test it and implement.

HII should consider changing from ICD 9 to ICD 10 format for collecting data from hospitals and they should develop hospital performance indicators in consultation with hospitals.

### Re: Costing

By the end of Year 1, it is expected that the EEHR pilot hospitals will have completed the new top down costing method which could provide a better set of costs for many of the more frequently treated cases. These could then be compared to the costs of cases as generated by the HII costing software. This might generate some suggested changes to the software as it pertains to costing.

## 6.2 YEAR 2

### Re: Funding

During the second year, there could be a further change in hospital funding moving closer toward equity between regions and between the regions and tertiary hospitals. The changes might still be incremental but moving in the desired direction. By the end of 2014 in preparation for 2015, it should be possible to adjust more accurately for population age structure and for referral patterns. This will generate greater confidence in the changes that are required.

### Re: Global Budgeting

During Year 2 in preparation for implementation in Year 3, consideration should be given to extending global budgets to one or two more regional hospitals and perhaps a couple of district hospitals. The Regional Hospitals to be considered might include Lezhe and Korce because they will have benefited from a couple of years of work with the EEHR consultants, which hopefully will address several of the requirements for global budgeting. District hospitals to consider might be those district hospitals in Lezhe and Korce regions and also those in the Durres Region. With the

assistance of the EEHR team, these hospitals could be developed and assessed for global budgeting during Year 1 and 2.

Re: Information

In Year 2 for the beginning of Year 3, the HII should implement the change to ICD 10 from ICD 9 and begin collecting a higher level of diagnosis definition from hospitals. This change will be required in due course for moving into a case mix model and for international comparisons.

Re: Costing

During Year 2, the HII should study the cost of examinations, blood and plasma, dietary and consider replacing the current use of the “prices” determined by the Ministry of Health with real costs. These changes along with the consolidation of hospital beds based on occupancy rates and the reallocation of staff to busy departments should move the costing software closer to real costs. These can be further adjusted later by incorporating the EEHR top down costing approach from the three pilot hospitals.

## 6.3 YEAR 3

Re: Funding

By the end of Year 2, funding changes should be available for introduction in January 2016 which will bring funding equity between and among hospitals and regions based on appropriate bed distribution to meet the needs of the population after adjusting for age and for referral patterns. Also at this time there should be a fairly detailed and useful set of performance indicators which can be generated from the data collected from hospitals. In addition, there should be a well developed pattern of consultation between HII and hospitals.

Re: Global Budgeting

Hopefully, by Year 3, the government has made improvements in the appointment and continuity of hospital management and there are several more hospitals with a governance body and a management team with skills and interest in the hospital management role. If so, global budgets could be extended to these additional hospitals.

It may also be possible to consider a region where the regional hospital management team takes a greater role in the management of the district hospitals in the same region. This could lead to a regional approach to hospital care perhaps improving coordination, better quality of services etc. This is a trend in many developed countries and is a good fit for Albania.

Re: Information

By the end of this year, HII should have researched and agreed on more information that should be reported from hospitals. For example, perhaps a Chart of Accounts, a Chart of Statistics, a List of Services, and a revised set of Reports could be concluded. Such items are requirements of the case-mix funding measure which is under consideration.

Re: Costing

By the end of this year, there should be cost information for the 20% of services which make up the roughly 80% of activity. These costs need not be calculated in every hospital but if done in several, the results could be extrapolated to the remainder. The EEHR top-down costing methodology should accomplish this and should be implemented in other hospitals. These costs are another of the requirements to proceed to case mix calculations.

## 6.4 YEAR 4 AND 5

Re: Funding

The process described in years 1-3 should continue until all hospitals are funded on a basis similar to all other hospitals. The funding discussion at this stage should become more about what hospitals are doing with their funds rather than the distribution. Funding should increase until it can be shown that hospitals are increasing their efficiency that quality is improving and that people are gaining confidence in their hospital care.

Re: Global Budgeting

Hospitals that establish a governance body and develop a management team with the proper skills and continuity and which control corruption should continue to get global budgets with fewer restrictions. As this happens, HII becomes more focused on accountability based on performance indicators which they would discuss with hospitals to determine how the budgets are being used.

Re: Information

Investigations should be taking place into the introduction of a case-mix approach to hospital activity measures. This involves deciding on a grouper software system. Neighboring countries seem to have chosen the Australian system more than others and this system should be considered first. Once the grouper is chosen, training needs to begin for staff who will oversee this system. It is possible prior to purchasing a grouper to have a neighboring country run the Albanian data through their grouper. This would generate some information which could be compared to what is already available.

Re: Costing

There should be relatively little additional costing activity required at this stage. A case-mix approach requires costs but most should be available and the primary need will be for maintenance and updating.

## 7. CONCLUSIONS

This report provides a step by step and year by year schedule of changes which will allow HII to improve hospital funding first using information already available. As information is improved, the funding methodology will improve and therefore the funding of hospitals will become more equitable.

Movement to global budgeting is somewhat independent of the funding methodology but is dependent on other factors such as governance of hospitals, management skills, commitment and continuity and control of corruption. Providing more autonomy of spending to hospitals lacking these characteristics is inviting even greater corruption and loss of funds.

There are opportunities to improve data and information about hospitals which will be useful to provide hospital management with the performance indicators to improve their hospitals' performance. Improved information will allow HII to compare hospitals and measure performance of hospitals which will assist in funding hospitals but also in determining incentives to improve hospital management.

The recommended changes will assist the HII to move toward case-mix calculations if they decide to do so in future years. Case-mix is not recommended for direct funding but will be useful in comparing workload in the hospitals, which can be factored into the funding model.

# 8. APPENDIX

## REFERENCES AND RESOURCES

1. Canadian Institute for Health Information: Canadian Patient Cost Database: Technical Document: MIS Patient Costing Methodology, November 2011.

[This 60 page document provides details on how to categorize hospital costs and how to calculate patient costs.]

[http://www.cihi.ca/CIHI-ext-portal/pdf/internet/MIS\\_PATIENT\\_COST\\_METH\\_EN](http://www.cihi.ca/CIHI-ext-portal/pdf/internet/MIS_PATIENT_COST_METH_EN)  
[http://www.cihi.ca/CIHI-ext-portal/pdf/internet/MIS\\_PATIENT\\_COST\\_METH\\_EN](http://www.cihi.ca/CIHI-ext-portal/pdf/internet/MIS_PATIENT_COST_METH_EN)

2. The following is a concise 23 page summary of the development of CMG in Canada and also in a dozen or so other countries and how they proceeded. It includes a glossary of terms that are used in CMGs.

Acute\_Care\_Grouping\_Methodologies CIHI 2004\_e

3. Canadian Coding Standards for Version 9 of ICD-10-CA and CCI Revised September 2009 [ This is a 458 page document which is too complex for application in Albania but it illustrates the level of detail that they will be heading for if they pursue DRG funding]

This is available free of charge at CIHI

<https://secure.cihi.ca/estore/productFamily.htm?pf=PFC1163&lang=en&media=0> ]

4. Case Mix Decision Support Guide: CMG+, August 2009

Provided on Paper at HII and available from CIHI site at \$105.

Contains good information on CMGs and their use and meaning

<https://secure.cihi.ca/estore/productSeries.htm?locale=en&pc=PCC500>

5. Canadian MIS Database Hospital Financial Performance Indicators 2009

Methodology Notes 1999-2000 to 2009-2010, Revised August 2011

[Provides a concise description of methodology and terminology in 40 Pages]

CIHI.org

[http://secure.cihi.ca/cihiweb/products/CMDB\\_hospita\\_financial\\_performance\\_indicators\\_meth\\_notes\\_2011\\_en.pdf](http://secure.cihi.ca/cihiweb/products/CMDB_hospita_financial_performance_indicators_meth_notes_2011_en.pdf)

6. CIHI Conferences provide a dozen articles and ppt files that are useful but the two most useful are here.

<http://www.cihiconferences.ca/HSFF2010/?doc=presentations>

7. Euro Observer Newsletters describing the development, advantages and disadvantages of DRG systems followed by descriptions of Germany, Netherlands, Finland experiences in introducing

DRG systems. Includes a chart showing experience of more countries. Indicates that several countries are funding with x% global and y% case based.

[http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs\\_aut10\\_v12n03.pdf](http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs_aut10_v12n03.pdf)[http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs\\_aut10\\_v12n03.pdf](http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs_aut10_v12n03.pdf)

8. Euro Observer Newsletters describing the DRG applications and more specific detail on France, Austria and Spain. Charts showing simple steps to cover the process. It deals with impact on outcomes and quality.

[http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs\\_win09\\_v11n04.pdf](http://www.cihiconferences.ca/HSFF2010/downloads/EuroObs_win09_v11n04.pdf)

9. On-line, free board governance and management guide

<http://managementhelp.org/boards/index.htm#anchor97797>

10. Article from York University on Activity Based Funding in Scandanavian countries, Australia, UK.

[http://www.york.ac.uk/media/che/documents/papers/researchpapers/rp30\\_introducing\\_activity-based\\_financing.pdf](http://www.york.ac.uk/media/che/documents/papers/researchpapers/rp30_introducing_activity-based_financing.pdf)

11. UBC Health care funding web site, with many resources.

<http://healthcarefunding.ca/>

12. CIHI: [www.cihi.ca](http://www.cihi.ca)

13. CIHI Canadian Classification of Health Interventions (Procedures):

[http://www.hcaiinfo.ca/health\\_care\\_facility\\_provider/documents/appendices/CCI\\_Vol4\\_2006%20Alpha%20Index.pdf](http://www.hcaiinfo.ca/health_care_facility_provider/documents/appendices/CCI_Vol4_2006%20Alpha%20Index.pdf)

14. US DRG Relative Weights:

<https://www.cms.gov/acutepatientpps/ffd/itemdetail.asp?filterType=none&filterByDID=-99&sortByDID=2&sortOrder=ascending&itemID=CMS022597&intNumPerPage=10>

15. Wikipedia: [http://en.wikipedia.org/wiki/Case\\_mix\\_index](http://en.wikipedia.org/wiki/Case_mix_index)

Simple 1 page example of how Case Mix can be used to compare hospitals

<http://www.oshpd.ca.gov/HID/Products/PatDischargeData/CaseMixIndex/CMI/ExampleCalculation.pdf>